



## SEQUENCE LISTING

<110> Rybak, Susanna M.  
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The Government of the United States of America  
as represented by The Secretary of the  
Department of Health and Human Services

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<120> Immunotoxins Directed Against Malignant Cells

<130> 015280-325200US

<140> US 09/918,887

<141> 2001-07-30

<150> US 60/046,895

<151> 1997-05-02

<150> US 09/071,672

<151> 1998-05-01

<160> 4

<170> PatentIn Ver. 2.1

<210> 1

<211> 104

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:RNase A derived from  
Rana pipiens, "onc protein"

<220>

<221> MOD\_RES

<222> (1)

<223> Xaa = Glu or pyroglutamic acid

<400> 1

Xaa Asp Trp Leu Thr Phe Gln Lys Lys His Ile Thr Asn Thr Arg Asp  
1 5 10 15

Val Asp Cys Asp Asn Ile Met Ser Thr Asn Leu Phe His Cys Lys Asp  
20 25 30

Lys Asn Thr Phe Ile Tyr Ser Arg Pro Glu Pro Val Lys Ala Ile Cys  
35 40 45

Lys Gly Ile Ile Ala Ser Lys Asn Val Leu Thr Thr Ser Glu Phe Tyr  
50 55 60

Leu Ser Asp Cys Asn Val Thr Ser Arg Pro Cys Lys Tyr Lys Leu Lys  
65 70 75 80

Lys Ser Thr Asn Lys Phe Cys Val Thr Cys Glu Asn Gln Ala Pro Val  
85 90 95

His Phe Val Gly Val Gly Ser Cys  
100

<210> 2  
 <211> 249  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:nucleic acid encoding  
 "onc protein"

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gatgttgatt	gtgataatat	catgtcaaca	aacttgttcc	actgcaagga	caagaacact	60
tttatctatt	cacgtcctga	gccagtgaag	gccatctgta	aaggaattat	agcctccaaa	120
aatgtgttaa	ctacctctga	gttttatctc	tctgattgca	atgtaacaag	caggccttgc	180
aagtataaat	taaagaaatc	aactaataaa	ttttgtgtaa	cttgtgaaaa	tcaggcacca	240
gttcatttt						249

<210> 3  
 <211> 83  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:"onc protein", positions  
 16-98 of SEQ ID NO:1

<400> 3

Asp	Val	Asp	Cys	Asp	Asn	Ile	Met	Ser	Thr	Asn	Leu	Phe	His	Cys	Lys
1				5					10					15	
Asp	Lys	Asn	Thr	Phe	Ile	Tyr	Ser	Arg	Pro	Glu	Pro	Val	Lys	Ala	Ile
			20					25					30		
Cys	Lys	Gly	Ile	Ile	Ala	Ser	Lys	Asn	Val	Leu	Thr	Thr	Ser	Glu	Phe
		35					40					45			
Tyr	Leu	Ser	Asp	Cys	Asn	Val	Thr	Ser	Arg	Pro	Cys	Lys	Tyr	Lys	Leu
	50					55					60				
Lys	Lys	Ser	Thr	Asn	Lys	Phe	Cys	Val	Thr	Cys	Glu	Asn	Gln	Ala	Pro
65					70					75				80	
Val	His	Phe													

<210> 4  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:carboxy terminal  
 sequence of RFB4-PE35KDEL and LL2-PE38KDEL chimeric  
 immunotoxins with Pseudomonas exotoxin A (PE) modified  
 by KDEL endoplasmic reticulum retention sequence

<400> 4

Lys Asp Glu Leu  
 1